AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 7, line 9, as follows:

Referring also to Figure 2, apparatus 305 for co-ordinating tasks to be executed by a computer system 100 may be stored on the hard disc drive 111 for intelligent processing by the processor 107. The apparatus 305 may be part of an intelligent assistant system ~~219~~ which enables users to devote their time to highly complex tasks while the system ~~219~~ takes some decisions on behalf of the user to increase productivity. Typical tasks to be performed by the system include time, information and communication management. When the computer system comprises several computer workstations, interconnected via the input/output interface 115, several intelligent assistant systems ~~219~~ may be active and may communicate with one another.

Please amend the paragraph beginning at page 7, line 24, as follows:

As shown in Figure 2, such a system ~~219~~ may additionally comprise a set of autonomous systems 201, 203, 205, 207, 209, 211, generally referred to as agents or assistants, specialising in various tasks such as diary management, telephone call filtering and email prioritisation, web search and telephone directory enquiry:

Please amend the paragraph beginning at page 9, line 4, as follows:

Co-ordination of information in the form of inter-agent collaboration has been presented as a feature of many known systems such as the ZEUS system discussed above, and the present system ~~219~~ similarly performs such interactions (albeit that the implementation of collaboration is different). However, system ~~219~~ additionally provides co-ordination of the presentation of information to the user, which involves considering the constraints of an additional entity, the user (although the entity may be another agent, or process). In general, after an agent has

completed its task results to the user. However, in the absence of some means of controlling when these results are presented, the user may be overloaded with information from many agents simultaneously. Thus, co-ordination of agent information is necessary to avoid increasing the cognitive load on the user. This co-ordination typically includes managing the interaction between the agents and the user; performing teaks on behalf of the user that requires the action of more than one agent; and scheduling actions to be performed at appropriate times. This therefore involves receiving task information from other agents, processing the task information into executable system actions, such as the action of allowing an agent to display information to the user, and maintaining a temporal database of these system actions. Although the system disclosed in patent application WO99/05597 (described above) is able to schedule and re-schedule tasks, the issue of scheduling presentation of task information to the user so as to avoid a communication overload at any one time is not addressed.

Please amend the paragraph beginning at page 10, line 4, as follows:

The co-ordinator 305 functions under the control of means ~~403~~, which may be provided by Java threads, although it is understood that ~~that~~ the use of Java is inessential to the co-ordinator and that any other method of concurrently running multiple processes would provide the means ~~403~~. Java is a good choice of language for developing multi-agent applications because of its object-oriented and multi-threaded characteristics, enabling each agent to comprise many objects and several threads. It also has the advantage of being portable across operating systems, as well as providing a rich set of class libraries that include excellent network communication facilities.

Please amend the paragraph beginning at page 10, line 14, as follows:

Thus referring to Figure 3, the first embodiment provides a co-ordinator 305 for co-ordinating tasks to be executed by the computer system 100, including scheduling means 307 to schedule and/or reschedule tasks and execution means 309 to effect execution of the same. The co-ordinator 305 is operable to receive task information 311 and to maintain a temporal record 315 of the schedule of the tasks, such that when a change is made to a task or a new task it sent tot the co-ordinator 305, it ~~305~~ informs the scheduling means 307 and updates the temporal record 315 accordingly. The co-ordinator 305 also includes a library 323 of task plans, each of which task plans includes a pre-specified action list actionable to perform a corresponding task. The user can explicitly specify an interruption status for allowing or otherwise interruptions to the user, and this may be input to the co-ordinator as task information 311. Typically, the interruption status includes information as to whether the user will accept or refuse interruptions (from, for example telephone calls and email notifications) and the co-ordinator 305 includes a simple interface allowing the user to set these preferences.

Please amend the paragraph beginning at page 10, line 31, as follows:

The co-ordinator 305 also includes a world model 313, which world model 313 comprises a diary of user tasks and the interruption status, and is accessed by the co-ordinator 305 when scheduling tasks and updating the temporal record 313. When the co-ordinator 305 forms part of the intelligent assistant system ~~219~~, which ~~219~~ includes a diary assistant 211 as one of the intelligent agents, the world model 313 replicates the information stored by the diary assistant 211. The world model 313 may store the diary of user tasks as a list of tasks, and each task has a timeslot associated therewith. Each timeslot is defined by a start time and a duration, and when the task information 311 includes, for example, a request to supply information to the

user, the scheduling means 307 schedules execution of the request to occur in a free timeslot of the world model 313. If the request involves a task to be performed by the co-ordinator 305 and/or other agents, the timeslot duration may be implicit in the task when scheduled, and this may be used to update the temporal record 315, together with the time that the task was initiated. In practice, if the request is to display information to the user and if the current timeslot is not free, the co-ordinator 305 will either not attempt to schedule the task, and refuse the request, or will schedule the task for a free timeslot in the future, having regard to the world model 313, and the corresponding executable task will be output from the co-ordinator 305 at that time. In the first situation the source of the request will have to re-initiate the request at a later time. In the second situation and the first situation when the current timeslot is free, the corresponding executable task may simply be communication between the co-ordinator 305 and the source of the request to permit the source to communicate with the user.

Please amend the paragraph beginning at page 13, line 14, as follows:

As described above, the co-ordinator 305 is also operable to manage interactions between the user and the intelligent assistant system ~~219~~. Thus, when the system ~~219~~ includes a plurality of intelligent agents 201, 203, 205, 207, 209, 211, the co-ordinator 305 interacts with the intelligent agents so as to schedule presentation of their information to the user, taking into account the interruption status, such as "will not accept any interruptions". This is shown schematically in Figure 2, and the intelligent agents may include at least some of a diary assistant, an email assistant, a Web assistant and a yellow pages assistant. When the system ~~219~~ includes the diary assistant 211, this is used to re-set the interruption status every 30 minutes, so that if the user has forgotten to re-set the status to "active" (i.e. "will accept interruptions"), the

system ~~219~~ takes control and allows interruptions from events such as meeting reminders etc. Clearly the user can override this automatic switch if desired.

Please amend the paragraph beginning at page 13, line 28, as follows:

As can be appreciated from the foregoing description, the co-ordinator 305 is not a centralised controller for the system ~~219~~. Although the co-ordinator 305 can request the agents 201, 203, 205, 207, 209, 211 to effect execution 309 of the tasks passed from the co-ordinator 305, the agents may not perform these tasks. The agents communicate with each other using the Zeus Open Messaging Architecture (detailed in footnote 1), and they 201, 203, 205, 207, 209, 211 operate mostly under the operation of the user, although as described above, notification of information to the user is routed through the co-ordinator 305 as shown in Figure 2 by the squares 241. In Figure 2, the ellipses 243 represent requests from the co-ordinator 305 to the agents, and may correspond to the information for effecting task execution 309. The diamonds 245 represent a record of the user's preferences or interests, having been extracted from a database 247 containing user profile data. Thus the agents 201, 203 linked to the diamonds 245 may be web and yellow pages assistants.